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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Katsuhiko Asai

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02/09/2005

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EXAMINER

CHOW, DOON Y

ART UNIT

PAPER NUMBER

2675

DATE MAILED: 02/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/522,958	ASAI ET AL.	
	Examiner	Art Unit	
	Dennis-Doon Chow	2675	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 September 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 and 6-71 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 6-71 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-2, 6, 8-18, 20, 23-24, 26, 28-32, 34, 47-48, 55, 57, 58, 60, 63, 68 and 69 are rejected under 35 U.S.C. 103(a) as being unpatentable over Powell "Cholesteric LCDs show images after power is turned off" in view of Iwamoto (4802739), Moon (5926173) and Davis (5862393).

Powell discloses a liquid crystal display device comprising: a liquid crystal display which uses reflective type liquid crystal with a memory effect (page 99, second paragraph), wherein the liquid crystal display exhibits a cholesteric phase. Powell also discloses turning power off and displaying images while the power is off (see title). The liquid crystal display inherently comprises a power supply circuit, an input means, a driving circuit, a controller, a controller and central processing unit for generating and outputting image information.

Powell does not explicitly disclose the use of a booster circuit.

Iwamoto, in the same display field discloses a power supply comprising a booster circuit for boosting a voltage level to a desired level.

It would have been obvious to one of ordinary skill in the art to use Iwamoto's booster circuit in Powell's power supply for the same reason as Iwamoto uses in the his invention, which is boosting a voltage level to a desired level.

Powell does not disclose using a specific method for turning the power on and off in the display device.

Moon, in the same display field, discloses turning power on and off in a liquid crystal display device by inactivating a power supply circuit using a controller unit, wherein some of internal circuits are also inactivated when the power supply circuit is inactivated. The display device comprises a timer for controlling the timing of turning the power off. Moon further discloses detecting and accepting a write command to the display even while the power is off (column 5, lines1-8) and performing image writing on the display in response to the write command.

It would have been obvious to one of ordinary skill in the art to use Moon's power off method in Powell's invention to turn the power on and off since Powell does not teach using any specific method for turning the power on and off.

The modified Powell does not disclose reactivates the inactivated part of the power supply circuit upon receiving an input from an operation section.

Davis, in the same display field, discloses deactivating a power supply circuit of a display device to reduce power consumption, and reactivating the power supply circuit upon receiving an input from a keyboard/mouse (col. 1, lines27-42). The keyboard inherently comprises a page forward or backward key to input a next page or a previous page of data.

In light of Davis, it would have been obvious to one of ordinary skill in the art to use Davis' reactivating means in the display device of the modified Powell because the reactivating means allows the power supply circuit of the display device to reactivate automatically when an input device is used.

3. Claims 3-4, 7, 21-22, and 56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Powell "Cholesteric LCDs show images after power is turned off" in view of Moon (5926173) and Davis

Powell discloses a liquid crystal display device comprising: a liquid crystal display which uses reflective type liquid crystal with a memory effect (page 99, second paragraph), wherein the liquid crystal display exhibits a cholesteric phase. Powell also discloses turning power off and displaying images while the power is off (see title). The liquid crystal display inherently comprises a power supply circuit, an input means, a driving circuit, a controller, a controller and central processing unit for generating and outputting image information.

Powell does not disclose using a specific method for turning power off in the display device.

Moon, in the same display field, discloses turning power on and off in a liquid crystal display device by inactivating a power supply circuit using a controller unit, wherein some of internal circuits are also inactivated when the power supply circuit is inactivated. The display device comprises a timer for controlling the timing of turning the power off. Moon further discloses detecting and accepting a write command to the

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display even while the power is off (column 5, lines1-8) and performing image writing on the display in response to the write command.

It would have been obvious to one of ordinary skill in the art to use Moon's power off method in Powell's invention to turn the power on and off since Powell does not teach using any specific method for turning the power on and off.

The modified Powell does not disclose reactivates the inactivated part of the power supply circuit upon receiving an input from an operation section.

Davis, in the same display field, discloses deactivating a power supply circuit of a display device to reduce power consumption, and reactivating the power supply circuit upon receiving an input from a keyboard/mouse (col. 1, lines27-42).

In light of Davis, it would have been obvious to one of ordinary skill in the art to use Davis' reactivating means in the display device of the modified Powell because the reactivating means allows the power supply circuit of the display device to reactivate automatically when an input device is used.

4. Claims 19, 27, 35, 37, 38, 40, 41, 43, 44, 46, 49, 51-54, 59, 62 and 64-67 are rejected under 35 U.S.C. 103(a) as being unpatentable over Powell "Cholesteric LCDs show images after power is turned off" in view of Moon and Davis.

Powell discloses a liquid crystal display device comprising: a liquid crystal display which uses reflective type liquid crystal with a memory effect (page 99, second paragraph), wherein the liquid crystal display exhibits a cholesteric phase. Powell also discloses turning power off and displaying images while the power is off (see title). The

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liquid crystal display inherently comprises a power supply circuit, an input means, a driving circuit, a controller, a controller and central processing unit for generating and outputting image information.

Powell does not disclose using a specific method for turning power on and off in the display device.

Moon, in the same display field, discloses turning power on and off in a liquid crystal display device by inactivating a power supply circuit using a controller unit, wherein internal circuits are also inactivated when the power supply circuit is inactivated. The display device comprises a timer for controlling the timing of turning the power off. Moon further discloses detecting and accepting a write command to the display even while the power is off (column 5, lines1-8) and performing image writing on the display in response to the write command.

It would have been obvious to one of ordinary skill in the art to use Moon's power off method in Powell's invention to turn the power on and off since Powell does not teach using any specific method for turning the power on and off.

The modified Powell does not disclose reactivates the inactivated part of the power supply circuit upon receiving an input from an operation section.

Davis, in the same display field, discloses deactivating a power supply circuit of a display device to reduce power consumption, and reactivating the power supply circuit upon receiving an input from a keyboard/mouse (col. 1, lines27-42).

In light of Davis, it would have been obvious to one of ordinary skill in the art to use Davis' reactivating means in the display device of the modified Powell because the

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reactivating means allows the power supply circuit of the display device to reactivate automatically when an input device is used.

5. Claims 25, 50 and 61 are rejected under 35 U.S.C. 103(a) as being unpatentable over Powell "Cholesteric LCDs show images after power is turned off" in view of Moon, Davis and Fitch (5912653).

Powell discloses a liquid crystal display device comprising: a liquid crystal display which uses reflective type liquid crystal with a memory effect (page 99, second paragraph), wherein the liquid crystal display exhibits a cholesteric phase. Powell also discloses turning power off and displaying images while the power is off (see title). The liquid crystal display inherently comprises a power supply circuit, an input means, a driving circuit, a controller, a controller and central processing unit for generating and outputting image information.

Powell does not disclose using a specific method for turning power on and off in the display device.

Moon, in the same display field, discloses turning power off in a liquid crystal display device by inactivating a power supply circuit using a controller unit, wherein internal circuits are also inactivated when the power supply circuit is inactivated. The display device comprises a timer for controlling the timing of turning the power off. Moon further discloses detecting and accepting a write command to the display even while the power is off (column 5, lines 1-8) and performing image writing on the display in response to the write command.

It would have been obvious to one of ordinary skill in the art to use Moon's power on and off method in Powell's invention to turn the power on and off since Powell does not teach using any specific method for turning the power on and off.

The modified Powell does not disclose reactivates the inactivated part of the power supply circuit upon receiving an input from an operation section.

Davis, in the same display field, discloses deactivating a power supply circuit of a display device to reduce power consumption, and reactivating the power supply circuit upon receiving an input from a keyboard/mouse (col. 1, lines 27-42).

In light of Davis, it would have been obvious to one of ordinary skill in the art to use Davis' reactivating means in the display device of the modified Powell because the reactivating means allows the power supply circuit of the display device to reactivate automatically when an input device is used.

The modified Powell does not disclose the use of a flexible substrate. However, using flexible substrates in a LCD device to make the LCD device flexible is well known in the art as shown by Fitch (see abstract). Thus, it would have been obvious to one of ordinary skill in the art to use the flexible substrates in the liquid crystal display device of the modified Powell to make the display device flexible. By doing so, the display device can be protected from damaging by sudden impact.

6. Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Powell "Cholesteric LCDs show images after power is turned off" in view of Iwamoto (4802739),

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Moon and Devis as applied to claims 1-2, 6, 8-18, 20, 23-24, 26, 28-32, 34, 47-48, 55, 57, 58, 60, 63, 68 and 69 above, and further in view of Fitch.

The above disclosures of Powell, Iwamoto, Moon, Davis and Fitch applied here.

7. Claims 36, 39, 42, and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Powell "Cholesteric LCDs show images after power is turned off" in view of Moon and Davis as applied to claims 19, 27, 35, 37, 38, 40, 41, 43, 44, 46, 49, 51-54, 59, 62 and 64-67 above, and further in view of Iwamoto.

The above disclosures of Powell, Moon, Davis and Iwamoto applied here.

8. Claim 70 is rejected under 35 U.S.C. 103(a) as being unpatentable over Moon in view of Iwamoto and Davis.

Moon discloses turning power off in a liquid crystal display device by inactivating a power supply circuit using a controller unit, wherein internal circuits are also inactivated when the power supply circuit is inactivated. The display device comprises a timer for controlling the timing of turning the power off. Moon further discloses detecting and accepting a write command to the display even while the power is off (column 5, lines 1-8) and performing image writing on the display in response to the write command.

Moon does not explicitly disclose the use of a booster circuit.

Iwamoto, in the same display field discloses a power supply comprising a booster circuit for boosting a voltage level to a desired level.

It would have been obvious to one of ordinary skill in the art to use Iwamoto's booster circuit in Moon's power supply for the same reason as Iwamoto uses in the his invention, which is boosting a voltage level to a desired level.

Moon does not disclose reactivates the inactivated part of the power supply circuit upon receiving an input from an operation section.

Davis, in the same display field, discloses deactivating a power supply circuit of a display device to reduce power consumption, and reactivating the power supply circuit upon receiving an input from a keyboard/mouse (col. 1, lines27-42). The keyboard inherently comprises a page forward or backward key to input a next page or a previous page of data.

In light of Davis, it would have been obvious to one of ordinary skill in the art to use Davis' reactivating means in Moon display device because the reactivating means allows the power supply circuit of the display device to reactivate automatically when an input device is used.

9. Claim 71 is rejected under 35 U.S.C. 103(a) as being unpatentable over Moon in view of Moon, Iwamoto and Davis as applied to claim 70 above, and further in view of Powell.

The modified Moon does not disclose the display device has a memory effect and is capable of continuing to display an image while inactivation of the power supply circuit.

Powell, in the same display field, discloses a liquid crystal display device having a memory effect and is capable of continuing to display an image while a power supply is off.

In light of Powell, it would have been obvious to one of ordinary skill in the art to substitute Powell's memory effect display device for the display device of the modified Moon because the memory effect display device allows an image to continually be displayed while the power supply is inactivated.

Response to Arguments

10. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dennis-Doon Chow whose telephone number is 703-305-4398. The examiner can normally be reached on 8:30-6:00, Alternate Monday off.

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

D. Chow
February 1, 2005


DENNIS-DOON CHOW
PATENT EXAMINER